

Safely Securing U.S. Ports



The port security assessment program.

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Shortly after September 11, 2001, the U.S. Coast Guard created the Port Security Directorate to enhance security in U.S. seaports. A crucial part of this organization is the Port Security Assessment Team at Coast Guard Headquarters, which has the responsibility of assessing port vulnerabilities and potential consequences of maritime-related terrorist acts and implementing tools to help ports reduce the risk of terrorism. The directorate immediately made an impact by conducting port security assessments in the nation's militarily and economically strategic ports, completing studies of the consequences of terrorist acts on specific types of vessels and infrastructure, developing a risk-based tool to help ports identify maritime critical infrastructure and reduce their risk of terrorism, and assisting the Department of Homeland Security (DHS) in administering grants to improve port security.

Security Assessment

The Port Security Assessment Team took a very close look at the vulnerabilities of critical infrastructure and key assets in ports supporting the marine transportation system. The current assessment approach was unique, in that it looked at port infrastructure from the perspective of the terrorist and used Coast Guard-led teams with former U.S. Navy SEALs to identify potential targets within the port. The teams identified potential targets, including high-consequence waterfront facilities, passenger vessels and terminals, bridges, and crucial waterways. These teams focused on the vulnerabilities of these targets and developed scenarios for attacking them, then followed on with recommendations to improve security, including how to detect, deter, and disrupt potential attacks.

To raise security awareness within the port, the assessment identifies methods and locations where terrorists might conduct surveillance of targets, gain access to the target, stage equipment near the target, and outlines activities that may indicate that security is being probed prior to an attack. Using the unique terrorist operations perspective enhances the vulnerability assessments required by the Maritime Transportation Safety Act and prevents duplicating the security assessments being widely conducted by industry and government agencies. Assessments have been conducted over the past three years in 72 of the nation's most strategic port systems.

Risk Assessment and Analysis

Besides the vulnerability assessments, another key issue within each port is the assessment of risk. Risk incorporates the elements of threat, vulnerability, and consequence. As Department of Homeland Security Secretary Chertoff said, "What should drive our intelligence, policies, operations, and preparedness plans and the way we are organized is the strategic matrix of threat, vulnerability, and consequence. And so, we'll be looking at everything through that prism and adjusting structure, operations, and policies to execute this strategy."

Considering the uncertain nature of security threats, and given that resources to counter them are limited, it is very important to apply risk analysis to tackle the greatest vulnerabilities with the worst consequences. The Coast Guard has used a tool called the port security risk assessment tool (PSRAT) for the past four years to assess risk in the various ports across the nation.



Currently, the Domestic Assessment Division within the Directorate of Inspections and Compliance has created an enhanced risk calculation tool, which is called the maritime security risk assessment model (MSRAM). MSRAM substantially improves the detail of the risk model and gives a more accurate prioritization of risk at the port and national levels to provide stakeholders with the information they need to make risk-based decisions and best apply their limited resources.

The maritime security risk assessment model:

- improves the threat component, by applying threat data from the Coast Guard's Intelligence Coordination Center as to the intent and capability of the adversary;
- involves Coast Guard District and Area Commands in review of data to provide consistency across ports nationally;
- requires assessing the capability of owners/operators of critical infrastructure, local law enforcement, and Coast Guard security assets to protect targets and deter and interdict attacks;
- requires estimating the secondary economic impacts with the loss of the target, considering recoverability and redundancy of the target;
- addresses response capability as a primary consequence mitigation factor for owner/operators, local first responders, and the Coast Guard;
- incorporates revised attack scenarios to ensure alignment of the Coast Guard's port, waterways, and coastal security missions with Department of Homeland Security efforts;
- features improved consistency of consequence and vulnerability scores between ports by having subject matter experts assign acceptable ranges, based on experience and field data;
- integrates an asset screening step that will allow users to determine if the consequence ratings rank high enough to require a more detailed review of the most critical assets in the port;
- includes a "change-case" capability, where mitigation strategies can be applied to the scenario/asset combination, to evaluate the resulting risk reduction/risk buy-down;
- brings training to field units, with the deployment of the tool to ensure a consistent approach nationally;

- supports strategic and operational decisions by rolling up of field-level risk assessments to portray risk density of targets;
- produces standard reports and the ability to query data by various means; and
- provides data to support local and national risk-based decision making.

Special Technical Assessments

In addition to the vulnerability assessments and the risk analysis tool developed via the PSRAT/MSRAM, the Port Security Assessment Team conducts special technical assessments to gather accurate information on vulnerabilities and determine the possible consequences of terrorist attacks on various vessel types and other critical port infrastructure. These assessments assist all levels of the Coast Guard, especially the Captains of the Port in their role as the federal maritime security coordinators, and asset owners and operators in making risk-based policy decisions based on factual data.

Special assessments typically include a technical review of the vessel or port infrastructure, mission, location, known vulnerabilities, cargo, areas of transit, terrorist modes of attack, and historical review of related incidents. Technical experts then use computer models to determine blast effects of various explosions for a range of attack scenarios, providing a consequence assessment. The information gained by these assessments provides a better understanding of what may actually happen during a terrorist attack, so that the most appropriate measures may be implemented to protect U.S. ports and waterways.

Special technical assessment projects are nominated by Coast Guard Headquarters, areas, districts, sectors, and field units. Examples of special technical assessments conducted include blast and consequence analysis of:

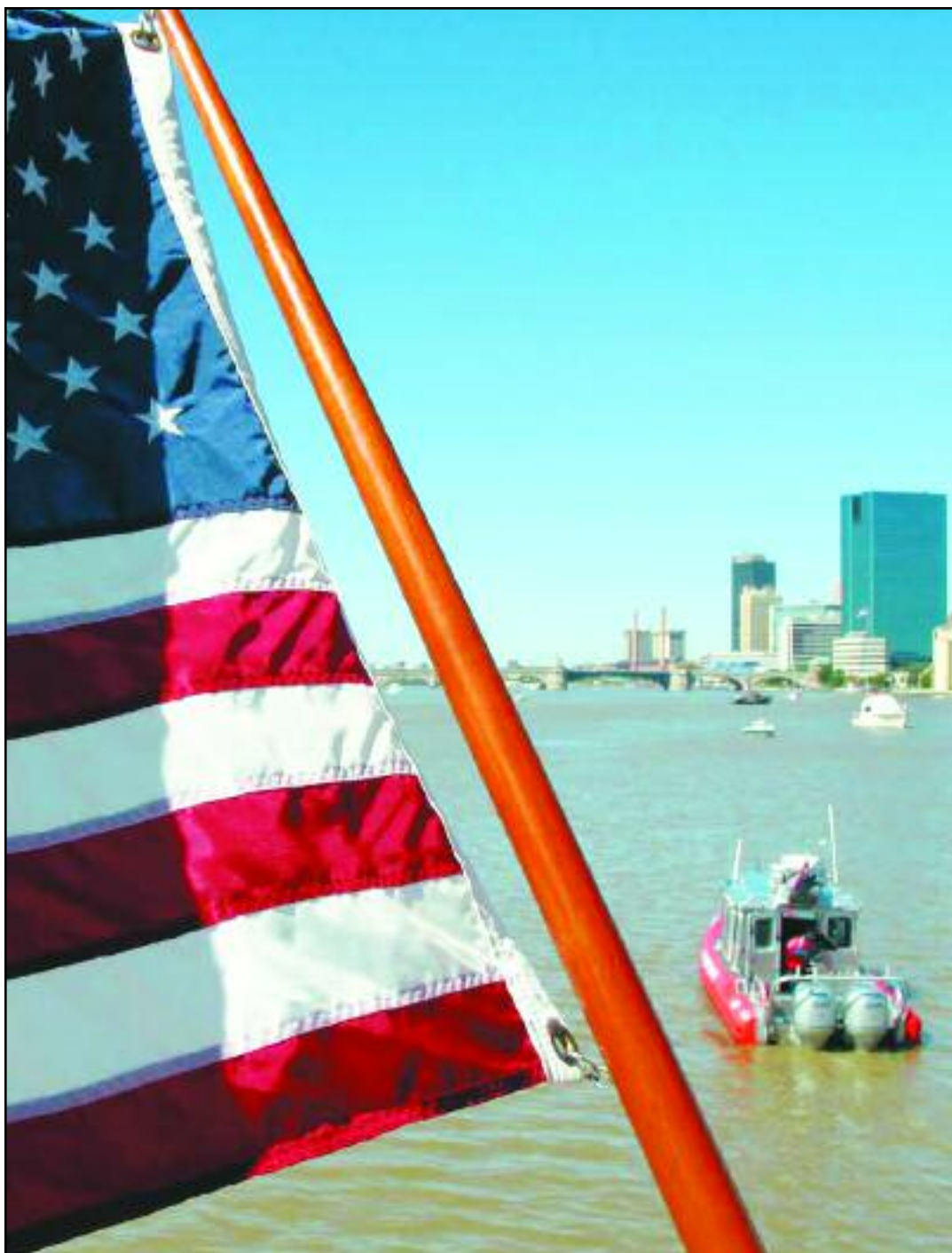
- liquefied petroleum gas ships;
- passenger ferries;
- barges carrying certain dangerous cargoes;
- tunnels;
- liquefied petroleum gas barges;
- cruise ships;
- single skin tank vessels; and
- ammonium nitrate commodities flow study.

Due to the sensitive information contained in these reports, they are classified but can be accessed by authorized personnel via the Port Security Directorate's secure Website. Also, key stakeholders

with appropriate clearances have been briefed on the results of these reports

Funding

When vulnerabilities are identified, consequences are known, and risks are prioritized, it is important to then take steps to reduce risk in the port. This takes resources. One of the mechanisms in place to address the needs, vulnerabilities, and documented gaps is the port security grant program. The federal government administers this program, which funds projects that reduce security risks in ports. In 2004, the Office of Grants and Training was designated as the lead agency to centralize state and local terrorism preparedness and grant administration with other emergency preparedness grant programs. The Coast Guard plays a significant role by assisting DHS in the grant process, which has awarded over \$560 million since 9/11.



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Port security assessments, the maritime security risk assessment model, special technical assessments, and port security grants combine to provide some of the tools and capability critical to a layered security regime. This regime will mitigate risks in U.S. ports and within the marine transportation system.

About the author: LCDR Brady Downs was commissioned in the U.S. Marine Corps in 1986, where he served in the 7th Marine Amphibious Expeditionary Brigade. In 1990, he transferred into the U.S. Coast Guard. His tours include Officer Candidate Instructor in Yorktown, Va.; Officer in Charge of the Presidential Honor Guard in Washington, D.C.; and Assistant Operations Officer aboard the Coast Guard Cutter Dallas. He has served as Search and Rescue coordinator for Coast Guard Group N.Y., Pollution Investigator for Captain of the Port N.Y., and Senior Marine Inspector and Marine Casualty Investigator for Activities New York. He currently serves in the Directorate of Inspections and Compliance.